

Application Serial No. 09/756,370

REMARKS

Claims 15 and 30 have been canceled, claims 1, 9, 11, 16, 24, 26 and 31-34 are currently amended, claim 10 was previously amended, claims 12-14, 25 and 27-29 are original and claims 2-8 and 17-23 have been previously withdrawn.

Rejection Under 35 U.S.C. § 102

The Examiner has rejected claims 1, 16 and 32 under 35 U.S.C. § 102(b) as being anticipated by United States Patent Number 5,485,463 issued on January 16, 1996 to A Godoroja (Godoroja).

It is respectfully submitted that the amendments to the claims have obviated the Examiner's grounds for rejection under 35 U.S.C. § 102(b).

The Godoroja apparatus transmits a locate signal over an area, typically, including a plurality of cells serviced by a plurality of base stations. If an associated paging unit receives the locate signal it transmits an acknowledgment signal. The strength of the received acknowledgment signal is then used to identify the cell in which the paging unit is in and, hence, the base station that is servicing it.

It appears that in the Godoroja apparatus a number of signals have to be transmitted by the base station at different times in order to supply information for a paging unit to acknowledge itself. See for example, Godoroja at column 7, lines 8-23 where these signals are detailed. This, of course, adds to the system overhead and slows down the acknowledgment process, which slows the determination whether the paging unit is reachable or not.

The primary purposes of applicants' invention, as now defined in currently amended claims 1, 16 and 32, are to save energy, simplify and speed up the detection process in a base station in determining whether a wireless terminal is reachable or not in a coverage area.

This is realized by the base station transmitting a single timing control order and the particular wireless unit transmitting a single timing control signal. Indeed, once the timing control order is transmitted both the base station and the particular wireless terminal know exactly when the timing control signal is to be transmitted by the particular wireless terminal.

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It is respectfully submitted that Godoroja fails to show, teach or suggest any apparatus or technique for realizing applicants now claimed invention.

To this end, currently amended claim 1 calls for a base station for use in a wireless communication system to include

“transmitting a timing control order in a timing control time slot assigned to said particular wireless terminal;

monitoring received timing control signal time slots to determine whether a timing control signal has been received from said particular wireless terminal, reception of said timing control signal indicating that said particular wireless terminal is reachable in said base station cell coverage area; and

storing a prescribed timing control signal associated with said particular wireless terminal and a prescribed time that said prescribed timing control signal is to be transmitted by said particular wireless terminal,

wherein said base station knows a priori said timing control signal and a prescribed time that said particular wireless terminal will transmit said timing control signal.”

Surely, Godoroja does not disclose or suggest any such combination of steps. Therefore, it is submitted that currently amended claim 1 is allowable over the rejection under 35 U.S.C. § 102(b) based on the Godoroja patent.

It is further submitted that in light of the significant differences between applicants' invention as defined in currently amended claim 1 and the Godoroja apparatus, applicants' invention as now defined in currently amended claim 1 would not have been obvious upon a reading of the Godoroja patent, taken alone or in combination with any other known reference.

Therefore, it is respectfully submitted that currently amended claim 1 is allowable over the arrangement disclosed in the Godoroja patent.

Currently amended claim 16 is an apparatus claim and currently amended claim 32 is a “means plus function” claim both of similar scope as currently amended claim 1 and are believed to be allowable for the same reasons set forth above regarding currently amended claim 1.

Accordingly, it is respectfully submitted that currently amended claims 1, 16 and 32 are now in condition for allowance.

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Rejection Under 35 U.S.C. § 103

The Examiner has rejected claims 9, 11, 24, 26 and 33 under 35 U.S.C. § 103(a) as being unpatentable over United States Patent Number 6,453,172 issued to T. Miyashita (Miyashita) on September 17, 2002, filed April 7, 1999 in view of United States Patent Number 5,960,341 issued to F. W. LeBlanc et al. (LeBlanc) on September 28, 1999.

It is respectfully submitted that the amendments to the claims have obviated the Examiner's grounds for rejection under 35 U.S.C. § 103(a).

As noted by the Examiner, the Miyashita patent discloses a dual band portable phone that receives control channels from a GSM base station and a PHS base station. The phone registers its position in a PHS area and stores the channel number of the GSM control channel. When the phone is moved from a PHS cover area it is disabled to receive the control channel from the PHS base station. At that time the phone reads out the channel number and registers its position to the GSM base station using the control channel corresponding to the stored number. Apparently, when the phone returns to a PHS mode, the phone goes into a standby state and a broadcast calling channel transmitted by a PHS base station in a predetermined one or two second interval can be received by the phone. The phone operates in the similar manner when it is determined it is out of the PHS area and it is determined that it is in a GSM area. In either situation, the phone must be able to detect this calling channel and it must know when it is to be transmitted. Apparently, the phone must also register its position to the PHS base station when it is in the PHS mode (see Miyashita at column 6, lines 33-52). Thus, it appears that a lot of activity is going on to determine where the phone is that requires time and energy.

In the LeBlanc apparatus, the mobile unit in an idle state scans for the strongest base station signal and monitors a control channel from that base station for a page signal or messages directed to it. When it is determined that a page signal is being transmitted from a base station, the mobile unit again scans all forward control channels to select the base station transmitting the strongest signal. Again, it appears that many operations are being performed which take time and energy

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Again, the primary purposes of applicants' invention, as now defined in currently amended independent claims 9, 24 and 33, and dependent claims 11 and 26 is to save energy, simplify and speed up the location process in a wireless terminal in determining whether a wireless terminal is reachable or not in a coverage area.

This is realized by the wireless terminal receiving a single timing control order and the particular wireless unit transmitting a single timing control signal. Indeed, once the timing control order is transmitted both the base station and the particular wireless terminal know exactly when the timing control signal is to be transmitted by the particular wireless terminal. No further signals need be detected, no signal strength measurements are required and no switching of modes is needed.

It is respectfully submitted that neither Miyashita nor LeBlanc, taken alone or in combination, fail to show, teach or suggest any apparatus or technique for realizing applicants now claimed invention.

To this end, currently amended claim 9 calls for a wireless terminal for use in a wireless communication system to include

“entering a monitoring mode to monitor a received paging time slot assigned to said particular wireless terminal for a timing control order;

in response to detecting a received timing control order for said particular wireless terminal, transmitting a timing control signal in a prescribed timing control time slot; and

storing an identity of a timing control order that said particular wireless terminal is to receive and a predetermined time that said prescribed timing control signal is to be transmitted by said particular wireless terminal,

wherein, said particular wireless terminal knows a priori said timing control signal and a prescribed time that said timing control signal will be transmitted by said particular wireless terminal.”

Surely, neither Miyashita nor LeBlanc disclose, teach or suggest any such combination of steps. Therefore, it is submitted that currently amended claim 9 is allowable over the rejection under 35 U.S.C. § 103(a) based on the Miyashita and LeBlanc patents.

Currently amended claim 24 is an apparatus claim and currently amended claim 33 is a “means plus function” claim, both of similar scope as currently amended claim 9 and are believed to be allowable for the same reasons set forth above regarding currently amended claim 9.

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Accordingly, it is respectfully submitted that currently amended claims 9, 24 and 33 are now in condition for allowance.

Currently amended claim 11 is dependent from currently amended claim 9 and, therefor, includes all of the inventive steps of currently amended claim 9. Since currently amended claim 9 is believed to be allowable and currently amended claim 11 includes all of its inventive steps, so too, currently amended claim 11 should also be allowed.

Currently amended claim 26 is dependent from currently amended claim 24 and, therefor, includes all of the inventive steps of currently amended claim 24. Since currently amended claim 24 is believed to be allowable and currently amended claim 26 includes all of its inventive elements, so too, currently amended claim 26 should also be allowed.

The Examiner has rejected claims 10, 12-14, 25 and 27-29 under 35 U.S.C. § 103(a) as being unpatentable over United States Patent Number 6,453,172 issued to T. Miyashita (Miyashita) on September 17, 2002, filed April 7, 1999 in view of United States Patent Number 5,960,341 issued to F. W. LeBlanc et al. (LeBlanc) on September 28, 1999 and further in view of United States Patent Number 6,680,920 issued to Y. Wan (Wan) January 20, 2004, filed February 8, 2000, which is a continuation of a United States Patent Number 6,044,069 filed on October 29, 1997.

Again, it is respectfully submitted that the amendments to the claims have obviated the Examiner's grounds for rejection under 35 U.S.C. § 103(a).

Note that claims 15 and 30 have been canceled.

Claims 10 and 12-14 are dependent from currently amended claim 9 and claims 25 and 27-29 are dependent from currently amended claim 24, and as such they include all the inventions steps or elements of their respective parent independent claims, namely, currently amended claim 9 and currently amended claim 24. Thus, since claims 10 and 12-14 include all the inventive steps of currently amended claim 9, which is believed to be allowable, so too, claims 10 and 12-14 should also be allowed over the rejection under 35 U.S.C. § 103(a) based on the Miyashita, LeBlanc and Wan.

The Examiner has rejected claims 31 and 34 under 35 U.S.C. § 103(a) as being unpatentable over United States Patent Number 5,485,463 issued on January 16, 1996 to A Godoroja (Godoroja) in view of United States Patent Number 6,453,172 issued to T.

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Miyashita (Miyashita) on September 17, 2002, filed April 7, 1999 in further view of United States Patent Number 5,960,341 issued to F. W. LeBlanc et al. (LeBlanc) on September 28, 1999.

Once gain, it is respectfully submitted that the amendments to the claims have obviated the Examiner's grounds for rejection under 35 U.S.C. § 103(a).

Currently amended independent claim 31 is a system method claim including the steps of currently amended claims 1 and 9. Therefore, it is respectfully submitted that currently amended claim 31 is allowable for the same reasons set forth above for currently amended claims 1 and 9 over the rejection under 35 U.S.C. § 103(a) based on the Godoroja, Miyashita and LeBlanc patents.

Currently amended independent claim 34 is a system means plus function claim including the elements of currently amended claims 32 and 33. Therefore, it is respectfully submitted that currently amended claim 34 is allowable for the same reasons set forth above for currently amended claims 32 and 33 over the rejection under 35 U.S.C. § 103(a) based on the Godoroja, Miyashita and LeBlanc patents.

It is believed that claims 1, 9-14, 16, 24-29 and 31-34.

It is believed that this application is now in condition for allowance. Reconsideration and allowance are therefore respectfully solicited.

If there are still outstanding issues to be resolved, the Examiner is respectfully invited to call applicants' attorney, Thomas Stafford, at 727-772-4173 so that those issues may be discussed and satisfactorily resolved.

Respectfully,
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